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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
O HARA, EILEEN B	

ART UNIT	PAPER NUMBER
1646	

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/978,189	ASHKENAZI ET AL.	
	Examiner	Art Unit	
	Eileen O'Hara	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 58-70 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 58-70 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4/3/02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 58-70 are pending in the instant application. Claims 1-57 have been canceled and claims 58-70 have been added as requested by Applicant in the Preliminary Amendment filed October 15, 2001.

Specification

2. The disclosure is objected to because it contains embedded hyperlinks and/or other form of browser-executable code. See page 124, line 37, page 127, line 18, page 233, line 1, page 227, line 1, page 276, line 1, page 309, line 32, page 311, line 33, page 313, lines 4, 5, 20 and 23, at least. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Double Patenting

3.1 Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application.

A sequence search of the pending and published application databases has revealed that there are a series of applications in which SEQ ID NO: 370 is present but that do not claim the polypeptide. Due to the large number of applications that contain this sequence, the examiner is unable to determine if any of these applications have claims directed to this polypeptide.

Applicant is required to point out to the Examiner all double patenting issues. See MPEP § 1.105.

The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained will be accepted as a complete reply to the requirement for that item.

This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

3.2 Claims 58-69 of this application conflict with claims 15-17, 19, 27, 29, 30, 31 and 47 of Application No. 09/978,189. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3.3 Claims 63-69 are directed to the same invention as that of claims 15-17, 19 and 47 of commonly assigned 09/816,920. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Failure to comply with this requirement will result in a holding of abandonment of this application.

3.4 Claims 63-69 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 15-17, 19 and 47 of copending Application No. 09/816,920. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3.5 Claims 58-62 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting. Claims 58-62 encompasses polypeptides having at least 80%, 85%, 90%, 95% or 99% sequence identity with a the protein of SEQ ID NO: 370. It would have been *prima facie* obvious to the person of ordinary skill in the art at the time the invention was made to make variants of the protein of SEQ ID NO: 370, in order to find a protein that may have increased activity.

3.6 Claim 70 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 15-17, 19 and 47 of copending Application No. 090/816,920 in view of Hopp et al., U.S. Patent Number 5,011,912.

Claim 70 encompasses a chimeric protein comprising the polypeptide of claim 58 fused to a heterologous polypeptide which may be an epitope tag or an Fc region of an immunoglobulin. Hopp et al. teach the use of an amino acid sequence, "ADYKDDDDK", which is disclosed as being immunogenic, for use in producing fusion protiens which can then be easily purified. See, for example, column 2, lines 45-57. It would have been *prima facie* obvious to the person of ordinary skill in the art at the time the invention was made to a fusion protein of SEQ ID NO: 2 of 09/816,920 comprising the flag amino acid sequence of Hopp et al., for the purpose of being able to easily purify the proteins of the primary references. The motivation and expectation of success are both taught by Hopp et al. who teach the flag peptide/monoclonal antibody purification system as being generally useful for such.

This is a provisional obviousness-type double patenting rejection.

Formal Matters

4. The deposit of biological organisms is considered by the Examiner to be necessary for enablement of the current invention (see MPEP Chapter 2400 and 37 C.F.R."1.801-1.809). Examiner acknowledges the deposit of organisms under accession number ATCC 209786 under terms of the Budapest Treaty on International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure in compliance with this requirement (see specification, pages 372-374).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 58-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 58-70 are indefinite because claims 58-63, 66, 67 encompass the extracellular domain of the polypeptide of SEQ ID NO: 370. The instant application identifies the polypeptide of SEQ ID N: 370 as a chemokine, which is a secreted soluble protein, and therefore there is no "extracellular domain", since the entire protein is extracellular. The other claims are rejected for being dependent on the independent claims 58 and 63.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 58-62, 69 and 70 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to polypeptides having at least 80%, 85%, 90%, 95% or 99% sequence identity with a particular disclosed sequence. The claims do not require that the polypeptide possess any particular biological activity, nor any particular conserved structure, or other disclosed distinguishing feature. Thus, the claims are drawn to a genus of polypeptides that is defined only by sequence identity.

To provide evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of compete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof. In this case, the only factor present in the claim is a partial structure in the form of a recitation of percent identity. There is not even identification of any particular portion of the structure that must be conserved. Accordingly, in the absence of sufficient recitation of distinguishing identifying characteristics, the specification does not provide adequate written description of the claimed genus.

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117.) The specification does not "clearly allow persons of

ordinary skill in the art to recognize that [he or she] invented what is claimed." (See *Vas-Cath* at page 1116). As discussed above, the skilled artisan cannot envision the detailed chemical structure of the encompassed genus of polypeptides, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481 at 1483. In *Fiddes*, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Therefore, only isolated polypeptides comprising the amino acid sequence set forth in SEQ ID NO: 307, with or without the signal sequence, but not the full breadth of the claims meet the written description provision of 35 U.S.C. § 112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. § 112 is severable from its enablement provision (see page 1115).

The instant application states on page 355 that the PRO273 protein stimulated proliferation of mammalian fibroblast cells in culture, and therefore can be used as a growth factor. Addition of such a functional limitation in the claims could overcome this rejection.

Priority Determination

35 U.S.C. § 120 states that:

> An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

35 U.S.C. § 119(e) states that:

> An application for patent filed under section 111(a) or section 363 of this title for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in a provisional application filed under section 111(b) of this title, by an inventor or inventors named in the provisional application, shall have the same effect, as to such invention, as though filed on the date of the provisional application filed under section 111(b) of this title, if the application for patent filed under section 111(a) or section 363 of this title is filed not later than 12 months after the date on which the provisional application was filed and if it contains or is amended to contain a specific reference to the provisional application.

7. Applicant is advised that the instant application can only receive benefit under 35 U.S.C. § 120 or § 119(e) from an earlier application which meets the requirements of 35 U.S.C. § 112, first paragraph, with respect to the now claimed invention. The PRO273 of the instant invention has a specific and substantial utility, that of stimulating proliferation of mammalian fibroblast cells in culture. This activity was disclosed in parent application 09/918,585. However, the previous applications that the instant application claims priority to did not disclose this activity, and therefore there was no specific and substantial utility for the PRO273 in those applications. It is noted that some of the parent applications disclosed results of mixed lymphocyte reaction (MLR) assays, discussed in Examples 129 and 130 on pages 353-355 of the instant application. However, the ability of a protein to stimulate lymphocyte proliferation in this assay does not support a specific and substantial utility for the claimed invention. The ability to stimulate or

inhibit lymphocyte proliferation in the MLR assay is an artificial *in vitro* system and does not provide for what specific conditions or for which specific diseases the claimed invention would predictably function. The results of the MLR assay do not support a specific and substantial utility for the claimed invention because the assay is not predictive of immune response in general, and one of ordinary skill in the art would not expect a stimulatory effect in the MLC assay to correlate to a general stimulatory effect on the immune system, absent evidence to the contrary. Additionally, Example 129 states that PRO273 stimulates activity in the MLR assay, while Example 130 states that PRO273 inhibits activity in the MLR assay, which are opposite results.

Therefore, because the other parent applications do not meet the requirements of 35 U.S.C. § 112, first paragraph, for those reasons given above and it is a continuation of the applications listed in the priority map filed June 21, 2002, the prior applications do not meet those requirements and, therefore, are unavailable under 35 U.S.C. § 120 or § 119(e). The effective priority date of the instant application is considered to be the filing date of parent application 09/918,585, July 30, 2001, because the claimed invention was not supported by either a specific and substantial utility or a well established utility other parent applications.

Rejections over Prior Art

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

8.1 Claims 58-70 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al., WO9933990, July 8, 1999.

Claims 58-70 are drawn to polypeptides having at least 80%, 85%, 90%, 95% or 99% sequence identity, respectively, with the extracellular domain (with or without the signal sequence) or full-length protein of SEQ ID NO: 370. Claims 69 and 70 encompass chimeric protein comprising the polypeptide of claim 58 fused to a heterologous polypeptide which may be an epitope tag or an Fc region of an immunoglobulin.

Chen et al. disclose a nucleic acid (SEQ ID NO: 1) that is 100% identical to nucleotides 167-502 of SEQ ID NO: 369 of the instant invention (ORF is nucleotides 167-499) that encodes a protein identified as Tim-1 CXC chemokine (SEQ ID NO : 2) that is 100% identical to the PRO273 protein of SEQ ID NO: 370 of the instant invention. Chen et al. also teach that fusion proteins comprising the Tim-1 protein can made, in which the heterologous protein may be an epitope tag (page 12, lines 14-24. Therefore Chen et al. anticipates the claims.

8.2 Claims 58-62, 69 and 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Ni et al., US Patent No. 5,910,431, effective priority date March 19, 1996 (60/013,653).

Claims 58-62, 69 and 70 are drawn to polypeptides having at least 80%, 85%, 90%, 95% or 99% sequence identity, respectively, with protein of SEQ ID NO: 370. Claims 69 and 70 encompass chimeric protein comprising the polypeptide of claim 58 fused to a heterologous polypeptide which may be an epitope tag or an Fc region of an immunoglobulin.

Ni et al. disclose a nucleotide sequence (SEQ ID NO: 1) that is 99.7% identical to the open reading frame, nucleotides 167-499, of SEQ ID NO: 369 of the instant invention except for one mismatch at nucleotide 488. The nucleic acid of Ni et al. encodes a protein that is 99.1% identical to the protein of SEQ ID NO: 370 of the instant invention, with one mismatch at amino acid 108. Therefore Ni et al. anticipates the claims.

8.3 Claims 58-62, 69 and 70 are rejected under 35 U.S.C. 102(a) as being anticipated Cao et al., The Journal of Immunology, Vol. 165, pages 2588-2595, September 2000.

Cao et al. disclose a nucleotide sequence (SEQ ID NO: 1) that is 99.7% identical to the open reading frame, nucleotides 167-499, of SEQ ID NO: 369 of the instant invention, except for one mismatch at nucleotide 488. The nucleic acid of Cao et al. encodes a protein identified as MIP-2γ, that is 99.1% identical to the protein of SEQ ID NO: 370 of the instant invention, with one mismatch at amino acid 108 (See Figure 1). Cao et al. also an Fc- MIP-2γ fusion protein (page 2589, second column, first full paragraph). Therefore Cao et al. anticipates the claims.

8.4 Claims 63-69 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. Claims 63-69 are directed to the same invention as that of claims 15-17, 19 and 47 of commonly assigned 09/816,920, U.S. Patent Application Publication 20020119118. The inventors of 20020119118 are Sherman Fong, Audrey Goddard, Kenneth Hillan, Iris Roth and William Wood. These inventors are also the inventors of the instant application, with the exception of Iris Roth, who was an inventor in 20020119118 but not of the instant application. Additionally, there are a large number of inventors of the instant application that were not listed as inventors in 20020119118. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

If a copy of a provisional application listed on the bottom portion of the accompanying Notice of References Cited (PTO-892) form is not included with this Office action and the PTO-892 has been annotated to indicate that the copy was not readily available, it is because the copy could not be readily obtained when the Office action was mailed. Should applicant desire a copy of such a provisional application, applicant should promptly request the copy from the Office of Public Records (OPR) in accordance with 37 CFR 1.14(a)(1)(iv), paying the required fee under 37 CFR 1.19(b)(1). If a copy is ordered from OPR, the shortened statutory period for reply to this Office action will not be reset under MPEP § 710.06 unless applicant can demonstrate a substantial delay by the Office in fulfilling the order for the copy of the provisional application. Where the applicant has been notified on the PTO-892 that a copy of the provisional application is not readily available, the provision of MPEP § 707.05(a) that a copy of the cited reference will be automatically furnished without charge does not apply.

Conclusion

10. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eileen B. O'Hara, whose telephone number is (571) 272-0878. The examiner can normally be reached on Monday through Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached at (571) 272-0871.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, se **http://pair-direct.ispto.gov**. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Eileen B. O'Hara, Ph.D.

Eileen B. O'Hara

Patent Examiner